

Office Action Summary

Application No.

10/826,531

Applicant(s)

CHEUNG ET AL.

Examiner

Kile Blair

Art Unit

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date: _____
- 4) ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This Office action is in response to the communication filed on 3/31/09. Claims 13-25 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US Pat. No. 6,512,826 B1) in view of Breed (US Pub. No. 2001/0038698 A1, see PTO-892 mailed 10/23/07).

Regarding claim 13, Kim teaches a peripheral apparatus for an electronic device, said peripheral apparatus comprising:

a directional speaker that provides sound output in a particular direction (speaker for forwardly propagating a sound wave, col. 2, lines 23-27); and

a controller operatively connected to said directional speaker, said controller operating to supply signals to said directional speaker so that the sound is output by said directional speaker (printed circuit board with volume knob, col. 2, lines 26-34),

wherein the sound output by said directional speaker results in audio sound in the particular direction for a user of the electronic device (the kit is adjustable to propagate sound in the direction of the listener, col. 6, lines 24-27), and

wherein the electronic device is a personal, hand-held wireless communication device (mobile wireless communication device, col. 4, lines 25-28, fig. 1), and said peripheral apparatus is configured to be removeably connected to the personal, hand-held wireless communication device (plug cord 470, col. 4, lines 25-28),

wherein said peripheral apparatus is portable and able to be hand-held (the hand free kit can be removed from the cigar portion of a vehicle and is able to be handheld, col. 5, lines 11-18, fig. 2), and

wherein while said peripheral apparatus is connected to the personal, hand-held wireless communication system, the personal, hand-held wireless communication device with said peripheral apparatus remain portable and hand-held (the hand free kit and mobile wireless communication device, when connected to each other, can be portable and handheld, fig. 3).

Although Kim does not explicitly teach the feature wherein the directional speaker provides ultrasonic sound output, Breed teaches using hypersound in directional speakers used in a car telephone system (Breed, [0144]) and it would have been obvious to one of ordinary skill in the art to use the hypersonic sound output of Breed in the speaker of the hand free kit of Kim with the motivation of providing sound with high directivity.

Regarding claim 14, Kim in view of Breed teaches a peripheral apparatus as recited in claim 13, wherein the electronic device has a peripheral connection port, wherein said peripheral apparatus connects to the electronic device at the peripheral

connection port (the wireless communication device inherently has a connection port to connect to the plug cord 470 of the hand free kit, col. 4, lines 25-28).

Although, the connection port is not explicitly disclosed to be an electronic card slot or a serial bus port, it would have been obvious to one of ordinary skill in the art to implement the port as a USB cable with the motivation of implementing the hand free kit to be used with USB equipped devices.

Regarding claim 15, Kim in view of Breed teaches a peripheral apparatus as recited in claim 14, wherein said peripheral apparatus further comprises a housing for said peripheral apparatus (connector member 420, Kim, col. 4, lines 7-11, fig. 7), and wherein said peripheral apparatus further comprises a mechanical mechanism that allows said directional speaker to move relative to said housing thereby allowing repositioning of said directional speaker to direct the sound output towards different directions (the main body 410 with speaker grill 416 can rotate with respect to the connector member 420, Kim, col. 5, line 66- col. 6, line 9).

Regarding claim 16, Kim teaches a peripheral device for a hand-held, computing device (mobile wireless communication device, col. 4, lines 25-28, fig. 1), said peripheral device comprising:

- a housing (main body 410, col. 4, lines 7-11, fig. 2);

- a directional speaker coupled to said housing (speaker portion 417 in main body 410, col. 4, lines 18-22, fig. 5), said directional speaker being configured to provide sound output in a particular direction (speaker for forwardly propagating a sound wave, col. 2, lines 23-27), wherein the sound output by said directional speaker results in

audio sound in the particular direction for a user of said computing device (the kit is adjustable to propagate sound in the direction of the listener, col. 6, lines 24-27);

a controller within said housing and operatively connected to said directional speaker, said controller operating to supply signals to said directional speaker so that the ultrasonic sound is output by said directional speaker (printed circuit board with volume knob, col. 2, lines 26-34); and

a port connector configured to assist with coupling said peripheral device to the computing device so that said computing device can drive said directional speaker to produce the audio sound (plug cord 470, col. 4, lines 25-28),

wherein the peripheral device is a hand-held device (the hand free kit can be removed from the cigar portion of a vehicle and is able to be handheld, col. 5, lines 11-18, fig. 2).

Although Kim does not explicitly teach the feature wherein the directional speaker provides ultrasonic sound output, Breed teaches using hypersound in directional speakers used in a car telephone system (Breed, [0144]) and it would have been obvious to one of ordinary skill in the art to use the hypersonic sound output of Breed in the speaker of the hand free kit of Kim with the motivation of providing sound with high directivity.

Regarding claim 17, Kim in view of Breed teaches a peripheral device as recited in claim 16, wherein said directional speaker is integral to said housing (speaker portion 417 in main body 410, Kim, col. 4, lines 18-22, fig. 5), and wherein when said peripheral device is operatively connected to said computing device, said computing device directs

audio signals to said peripheral device (an audio signal from the mobile communication device is directed to the speaker through plug cord 470 when the hand free kit and the mobile communication devices are connected to each other, Kim, col. 4, lines 50-59).

Regarding claim 18, Kim in view of Breed teaches a peripheral device as recited in claim 16, wherein said peripheral device further comprises a cable that connects said peripheral device to said computing device via a connector or plug (plug cord 470, Kim, col. 4, lines 25-28).

Claims 19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim in view of Breed in further view of Carmi (US Pub. No. 2003/0174242 A1).

Regarding claim 19, Kim in view of Breed teaches a peripheral device as recited in claim 16, and although the combination of Kim in view of Breed does not explicitly teach the wherein said peripheral device further comprises a camera, Carmi teaches a camera 10 (Carmi, fig. 1) that can be connected to a cellular telephone 20 (Carmi, [0031]) would have been obvious to one of ordinary skill in the art to implement a camera as disclosed into to hand free kit with the motivation of obtaining the functionality of a camera in a peripheral device for a hand held computing device.

Regarding claim 21, Kim in view of Breed teaches a peripheral device as recited in claim 16, and although the combination of Kim in view of Breed does not explicitly teach the feature wherein said port connector is a USB connector, Carmi teaches a peripheral device 10 for a handheld computing device 20 that is connected by a cable 22 using a communication protocol such as the serial RS232 protocol (although it would

have been readily apparent to one of ordinary skill in the art that a USB connection could be used as disclosed by Carmi for connecting to a host computer, [0081]) and it would have been obvious to one of ordinary skill in the art to make the simple substitution of one known element (a USB connector as disclosed by Carmi) for another (the plug cord 470 of Kim) to obtain predictable results. KSR International Co. v. Teleflex Inc., 550 U.S. 398, 82 USPQ2d 1385 (2007) (KSR). See MPEP § 2143, B.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim in view of Breed in further view of Freadman (US Pat. No. 5,481,616).

Regarding claim 20, Kim in view of Breed teaches a peripheral device as recited in claim 16, and although the combination of Kim in view of Breed does not explicitly teach the feature wherein said housing is configured as a peripheral bus plug-in card, Freadman teaches a speaker module 24 used as a peripheral device for a personal digital assistant 30, where the speaker module 24 is configured as a peripheral bus plug-in card (Freadman, col. 3, lines 13-22, fig. 2) and it would have been obvious to one of ordinary skill in the art to use the peripheral device configuration of Freadman in the combination of Kim in view of Breed since doing so is the use of a known technique (the plug-in card configuration for a peripheral speaker of a hand held computing device of Freadman) to improve a similar device in the same way (the peripheral device of the mobile communication device of Kim in view of Breed) to yield predictable results. KSR. See MPEP § 2143, C.

Claims 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zlotnick (US Pub. No. 2004/0114772 A1, see PTO-892 mailed 12/31/08).

Regarding claim 22, Zlotnick teaches a method for automatically selecting one or more of a plurality of potential speakers integral with a hand-held audio output device (processor 108 supplies signals OD_(A) through OD_(D) to the speakers 206 based on the input from the microphones resulting from the reflection of the control audio signal, fig. 3B and fig. 4, [0060-0061]), said method comprising:

obtaining a piece of information pertaining to the hand-held audio output device (direction finding using retro-directive unit 110B that is attached to a person, [0060], fig. 3B);

determining an appropriate one or more of the potential speakers, to output an audio output from the hand-held audio output device based on the piece of information (the output signals OD_(A) through OD_(D) to the speakers 206 are based on the input from the microphones resulting from the reflection of the control audio signal, fig. 3B and fig. 4, [0060-0061]); and

selecting the appropriate one or more of the potential speakers integral with the hand held audio output device (supply output signals to loudspeakers, [0060]), wherein at least one of the speakers is a directional speaker (standard telecommunication narrow-directional loudspeakers, [0060]).

Although Zlotnick does not explicitly disclose the feature wherein at least one of the speakers is a substantially non-directional speaker and wherein said determining determines whether the appropriate one or more of the potential speakers are to be

directional, substantially non-directional or both based on the piece of information, it would have been obvious to one of ordinary skill in the art to implement the recited features into the cellular phone of Zlotnick.

Zlotnick is directed to a cellular phone that determines the relative location of a user of the phone (Zlotnick, [0061]) and produces directional audio output based on the determined user location. Zlotnick does not explicitly teach the feature of selecting between a directional and non-directional speaker based on a piece of information.

Zlotnick does teach, as prior art, the feature of a presumably non-directional speaker (i.e. speakers associated with speakerphone function) which is able to be heard by individuals other than the immediate user (third technique which suffers from no privacy, [0004-0005]).

It was well recognized at the time of the invention of the need for privacy when using a cell phone located in the vicinity of a user (Zlotnick, [0004-0005]) and the need to use a cell phone according to the third prior art technique of Zlotnick (i.e. non-directional speakerphone, Zlotnick, [0004-0005], speakerphone, [0009]) for the purpose of deliberately including individuals other than an immediate user in a conversation.

Although Zlotnick does not explicitly propose a solution to meet both of these needs, there is a finite number of solutions that exist (i.e. using only directional speakers, using only non-directional speakers, using both directional and non-directional speakers, and using directional or non-directional speakers selectively). Therefore, the recited combination of the applicant (i.e. whether the appropriate one or more of the potential speakers are to be directional, substantially non-directional or both

based on the piece of information) would have been obvious to try since it would have yielded predictable results to one of ordinary skill in the art. KSR. See MPEP § 2143, E.

Regarding claim 23, Zlotnick teaches a method as recited in claim 22, wherein the piece of information is related to how the hand-held audio output device is presently being used (in the combination set forth above, the directional and non-directional features are be selected when the device is being used in a manner where privacy is desired or not desired, respectively).

Regarding claim 24, Zlotnick teaches a method as recited in claim 22, wherein the piece of information is related to an orientation of the hand-held audio output device (processor receives data and determines related angles, [0058]).

Regarding claim 25, Zlotnick teaches a method as recited in claim 22, wherein the piece of information is related to a distance from the hand-held audio output device to a surface (the location of the user can be determined based on the reflection of the control signal off of the retro-directive unit 110B, [0058] and [0060]).

Response to Arguments

Applicant's arguments with respect to claims 13-25 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kile Blair whose telephone number is (571) 270-3544. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (571) 272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KB

/Vivian Chin/
Supervisory Patent Examiner, Art Unit 2614